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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,267	03/01/2002	Oscar E. Agazzi	BP1904	4805

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EXAMINER	
GHEBRETINSAE, TEMESGHEN	
ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/086,267	AGAZZI, OSCAR E.	
	Examiner	Art Unit	
	Temesghen Ghebretinsae	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-184* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *80-112 and 129-133* is/are allowed.

6)☒ Claim(s) *1-79,113-128,134-184* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2,6-8,12-15,17,20-21,25,27,30,34,37,113,116-117,119,121,123,126-127,134-135,139-141,145-146,148150,153-154,158,160,163,170 are rejected under 35 U.S.C. 102(b) as being anticipated by Alelyunas et al (5,705,949).

Consider claim 1 and 113,134,163 as claimed now. Alelyunas discloses a receiver comprising an analog to digital converter (14) that generates digital samples of the modulated data coupled to a digital signal processor (16). The DSP determines compensation operations to be performed by the receiver on the digital samples(Id,Qd) of the modulated serial data. The DSP demodulated(decode) the digital samples to extract the digital data (I and Q) (see fig.1) The DSP interfaces two devices (12,14) communicatively coupled via at least one of twisted pair cable, a coaxial cable and a

twin ax cable as claimed in claim 2. The DSP determines a compensation operation to be performed on the digital data(Id,Qd) as claimed in claim 12,116,135,145. The DSP is implemented in a data communication application as claimed in claim 13 and 146. (see abstract and col.2, lines 53-67 and col. 3, lines 20-37) The DSP selects at least one compensation option from the plurality of compensation options to ensure the proper characteristics of the digital data and the proper characteristic of the digital data comprises at least one of gain, a phase and an offset as claimed in claims 14-15 and 17 and 117 and 148,150 (see abstract and col.2, lines 53-67). The DSP determines compensation to be performed to substantially eliminate a pattern of noise introduced during the digital sampling of the analog data by the A/D converter to generate the digital data as claimed in claims 6-8 and 139-141(see col.3, lines 10-16). The analog to digital converter comprises a plurality of A/D (14) converters performing digital sampling of the incoming data signal as claimed in claim 20-21,119,121 and 153-154. The analog data is partitioned into plurality of channels (I, Q) each channel of the plurality of channels communicatively coupled to one A/D converter (14) and the analog signal is simultaneously fed to each A/D converter within the plurality of A/D converters as claimed in claims 25, 27 and 119,121,123,126-127 and 158 and 160, The DSP is operable to perform digital signal processing on the digital (Id, Qd) data to ensure the proper characteristic of the digital data as claimed in claim 37,170. The I and Q signal output of from DSP are decoded to generated the transmitted signal as claimed in claims 30 and 163.

4. Claims 1-8,12-27,34,37-41,113,116-117,119,121,123,126-127,134-141,145-146-160,163,167,170-175,178,183,184 are rejected under 35 U.S.C. 102(b) as being anticipated by Kost et al. (6,081,215).

Kost discloses a receiver comprising: a plurality of A/D converters (48,50) operate to sample the modulated data to generate a digital samples of the modulated data and a digital signal processor (54) demodulates the digital samples to extract the digital data contained therein. The DSP compensates for non-uniformity among the plurality of the A/D converters. The modulated data is provide to the receiver by transmitter.(see fig.2 and 6, abstract and col.4, lines 8-37) The DSP(54) interfaces two devices (40,51) communicatively coupled via at least one of a twisted pair cable, coaxial cable and a twin-ax cable as claimed in claim 2. the DSP determines a compensation operation to be performed on the digital data as claimed in claim 12,116,135,145(see abstract). The DSP is implemented in a data communication application as claimed in claim 13 and 146. The DSP determines compensation to be performed to substantially eliminate a pattern of noise introduced during the digital sampling of the analog data by the A/D converter to generate the digital data as claimed in claims 6-8 and 139-141. The DSP selects at least one compensation option from the plurality of compensation options to ensure the proper characteristics of the digital data and the proper characteristic of the digital data comprises at least one of gain, a phase and an offset as claimed in claims 14-15 and 17 and 117 and 148,150 (see col.7, lines 35-67 and claims 1,11,22) The analog to digital converter comprises a plurality of A/D (48,50) converters performing digital sampling of the incoming data signal as claimed in

claim 20-21,119,121 and 153-154. The analog data is partitioned into plurality of channels (45) each channel of the plurality of channels communicatively coupled to one A/D converter (48,50) and the analog signal is simultaneously fed to each A/D converter within the plurality of A/D converters as claimed in claims 25, 26,27 and 119,121,123,126-127 and 158 and 160, The DSP is operable to perform digital signal processing on the digital (output from 47,49) data to ensure the proper characteristic of the digital data as claimed in claim 37,170. The receiver also comprises an analog front end; a plurality of analog digital converter and a gain amplifier as claimed in claims, 39-41 and 172-174. The DSP comprises compensation operation that comprises adjusting operational parameters of the A/D and the operation parameters comprises at least one of gain, a phase ad an offset as claimed in claims18-19, 22-24 and 151-152,155-157(see fig.1 and 6). The DSP employees parallel processing compensation technique as claimed in claims 35-36 and 168-169 (see fig.6 box 158,160,162 and 166,168, 170).

5. Claims 42-57,62-69,76-79,113-128 ,176,177,179-182 are rejected under 35 U.S.C. 102(b) as being anticipated by Kost et al.

Kost discloses a communication system comprising a receiver for receiving analog signal; an analog to digital converter (46,50) for sampling the analog signal; and a DSP (54) adaptively determining a parallel-based compensation and a parallel-based operation to be performed to ensure a proper characteristic of the digital data (see fig.4 and 6). The parallel-based operation comprises adjusting an operation parameter of at least one A/D converter within the plurality of A/D converters. The parameter comprises

at least one of gain, an offset and phase as claimed in claims 44,46-51 (see col.1, lines 5-14 claims 1-22). The analog serial signal (45) is simultaneously fed to each A/D converters (46,50) as claimed in claim 52. The DSP provides control to each A/D converter as claimed in claims 53-54. The analog signal is partitioned into plurality of channel (45) before being fed to the plurality of A/D as claimed in claim 55. The receiver further comprises gain amplifiers (18) as claimed in claims 56-57. The analog to digital converter comprises a plurality of A/D (48,50) converters performing digital sampling of the incoming data signal as claimed in claim 119,121. The analog data is partitioned into plurality of channels (45) each channel of the plurality of channels communicatively coupled to one A/D converter (48,50) and the analog signal is simultaneously fed to each A/D converter within the plurality of A/D converters as claimed in claims 123,126-127.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 9-11,28-33,59-61,72-75,142-144.161-162,164-166 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kost in view of Stewart (5,671,253).

8. As discussed above Kost disclose all the subject matter substantially as claimed. Kost differs from the claimed invention in that he is silent in terms of his receiver including AGC, an equalizer and Viterbi decoder. However, Stewart discloses a receiver

comprising an analog digital converter (210); a DSP (10) an AGC (270); an equalizer and a filer coupled to the A/D; and a viterbi decoder. Kost and Stewart are an analogous art because they are from the same field of endeavor of DSP. At the time the invention, it would have been obvious to person of ordinary skill in the art to incorporate in the receiver disclosed by Kost the AGC, an equalizer and the Viterbi decoder by Stewart. The suggest/motivation for doing so would have been to improve the reception performance and reduce inter-symbol interference.

Allowable Subject Matter

9. Claims 80-112 and 129-133 are allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temesghen Ghebretinsae whose telephone number is 571-272-3017. The examiner can normally be reached on Monday-Friday from 8 to 6. The examiner can also be reached on alternate.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Temesghen Ghebretinsae
Primary Examiner
Art Unit 2611

T.Ghebretinsae

TEMESGHEN GHEBRETINSAE
PRIMARY EXAMINER
4/30/07